

AMENDMENTS IN THE CLAIMS:

1. (currently amended) A focus control apparatus which controls a focus of an objective lens for focusing light against an optical disk having a plurality of signal recorded layers, comprising:

focus drive means for moving the objective lens in a direction orthogonal to the recorded layers of the optical disk;

photodetection means for detecting reflected light from said optical disk;

focus-error-signal generation means for generating a focus error signal which corresponds to defocusing of said objective lens relative to any of said recorded layers of said optical disk, on the basis of a detection signal of said photodetection means;

recorded-layer movement control means for generating a signal which controls said focus drive means, on the basis of the error signal, in order to move said objective lens on the recorded layer which is an objective of said objective lens; and

focus pull-in means for pulling in the focus of said objective lens onto said recorded layer on which said objective lens is to be focused, said pull-in means being permitted to switch on and off by said recorded-layer movement control means;

wherein said recorded-layer movement control means calculates an intermediate value of said focus error signal from a maximum value and a minimum value of said focus error signal corresponding to said recorded layer; and

in case of moving the focused position of said objective lens in response to a layer jump to one of the said recorded layers layer, said focus pull-in means for performing an automatic

adjustment of focus bias is turned on at a pull-in point when said focus error signal has corresponded to the intermediate value.

2. (currently amended) An optical disk playback system comprising a focus control apparatus which controls a focus of an objective lens for focusing light against an optical disk having a plurality of signal recorded layers, said focus control apparatus including:

focus drive means for moving the objective lens in a direction orthogonal to the recorded layers of the optical disk;

photodetection means for detecting reflected light from said optical disk;

focus-error-signal generation means for generating a focus error signal which corresponds to defocusing of said objective lens relative to any of said recorded layers of said optical disk, on the basis of a detection signal of said photodetection means;

recorded-layer movement control means for generating a signal which controls said focus drive means, on the basis of the error signal, in order to move said objective lens on the recorded layer which is an objective of said objective lens; and

focus pull-in means for pulling in the focus of said objective lens onto said recorded layer on which said objective lens is to be focused, said pull-in means being permitted to switch on or off by said recorded-layer movement control means;

wherein said recorded-layer movement control means calculates an intermediate value of said focus error signal from a maximum value and a minimum value of said focus error signal corresponding to said recorded layer;

in case of moving the focused position of said objective lens in response to a layer jump to one of said recorded layers ~~layer~~, said focus pull-in means for performing an automatic

adjustment of focus bias is turned on at a pull-in point when said focus error signal has corresponded to the intermediate value, in advance of playback of the optical disk; and recording layer movement control is performed by using a focus bias value obtained by the automatic adjustment of the focus bias when the optical disk is reproduced.

3. (canceled)

4. (currently amended) A focus control apparatus wherein a layer jump of an objective lens is controlled for an optical disk having a plurality of signal recorded layers, comprising:

means for obtaining an intermediate value of a focus error signal from a maximum value and a minimum value of the a focus error signal which corresponds to defocusing of the objective lens, and which is generated by a certain one of the recorded layers; and

means for turning on a focus servo at a pull-in point which pulls in a focus of said objective lens, with a bias at which the focus error signal corresponds to the intermediate value, in case of a the layer jump to one of the plurality of signal the recorded layers layer in order to perform an automatic adjustment of a focus bias of the objective lens for the recorded layer.

5. (currently amended) A method of controlling a layer jump of an objective lens for an optical disk having a plurality of signal recorded layers, comprising the following steps of:

obtaining an intermediate value of a focus error signal from a maximum value and a minimum value of the a focus error signal which corresponds to defocusing of the objective lens, and which is generated by a certain one of the recorded layers; and

turning on a focus servo at a pull-in point which pulls in a focus of said objective lens, with a bias at which the focus error signal corresponds to the intermediate value, in case of the layer jump to one of the plurality of signal the recorded layers ~~layer~~ in order to perform an automatic adjustment of a focus bias of the objective lens for the recorded layer.

6. (currently amended) A program product; storing a program that is executable by an apparatus which plays back an optical disk having a plurality of signal recorded layers, said program being executed by said playback apparatus to:

obtain an intermediate value of a focus error signal from a maximum value and a minimum value of a focus error signal which corresponds to defocusing of the objective lens, and which is generated by a certain one of the recorded layers;

turn on a focus servo at a pull-in point which pulls in a focus of said objective lens, with a bias at which the focus error signal corresponds to the intermediate value, in case of the layer jump to one of the plurality of signal the recorded layers ~~layer~~ in order to perform an automatic adjustment of a focus bias of the objective lens for the recorded layer; and

performing the recorded layer movement control by using a value obtained in the automatic adjustment of the focus bias when the optical disk is reproduced.

7. (canceled)